Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A method, comprising:
encoding a plurality of signals according to a predetermined negation scheme;
transmitting said plurality of signals, each signal transmitted by way of a wireless channel;
receiving a signal, wherein said signal is a combination of the plurality of transmitted signals;
interpolating between data in the received signal to generate a plurality of systems of equations; and
solving the plurality of systems of equations to determine a gain and phase shift applied to each of the plurality of transmission signals by a corresponding wireless channel;
wherein encoding the plurality of signals comprises negating odd tones of negative frequency and even tones of positive frequency.

2. (Original) The method of claim 1, further comprising using the gain and phase shift to eliminate distortion in received signals.

3. (Canceled).

4. (Original) The method of claim 1, wherein encoding a plurality of signals comprises negating even tones of negative frequency and odd tones of positive frequency.

5. (Original) The method of claim 1, wherein encoding a plurality of signals comprises generating a plurality of signals with different contents.

6. (Currently amended) A system, comprising:

a receiver that generates a plurality of equations based on data in a received signal and by interpolating between data in said received signal; and

at least two transmitters, each transmitter is wirelessly coupled to the receiver and transmits at least one signal by way of a wireless channel, said at least one signal encoded according to a predetermined negation scheme;

wherein the receiver solves the plurality of equations to determine a gain and phase shift applied to each transmitted at least one signal by a corresponding wireless channel;

wherein said at least one signal is encoded according to the predetermined negation scheme by negating even tones of negative frequency and odd tones of positive frequency.

7. (Original) The system of claim 6, wherein the receiver uses the gain and phase shift to eliminate distortion in received signals.

8. (Previously presented) The system of claim 6, wherein the predetermined negation scheme is known to the receiver prior to generating the plurality of equations.

9. (Original) The system of claim 6, wherein each of the at least two transmitters encodes a signal using different frequency tones.

10. (Currently amended) A system, comprising:

a plurality of transmitters, each transmitter transmits by way of a wireless channel a set of frequency tones encoded according to a predetermined negation scheme; and

a receiver wirelessly coupled to each of the plurality of transmitters, said receiver generates equations based on data and interpolations between said received data;

wherein the receiver solves the equations to determine a gain and phase shift applied to each set of transmitted frequency tones by a corresponding wireless channel;

wherein each transmitter is able to encode the set of frequency tones according to the predetermined negation scheme by negating odd tones of negative frequency and even tones of positive frequency;

wherein each transmitter is able to encode the set of frequency tones according to the predetermined negation scheme by negating even tones of negative frequency and odd tones of positive frequency.

11. (Original) The system of claim 10, further comprising using the gain and phase shift to eliminate distortion in received signals.

12. (Original) The system of claim 10, wherein the predetermined negation scheme is known to the receiver prior to generating equations.

13. (Original) The system of claim 10, wherein each of the plurality of transmitters encodes a set of frequency tones comprising different data.

14. (Currently amended) A receiver wirelessly coupled to a transmitter, comprising:

a processor that generates a plurality of equations based on data in a received signal and by interpolating between data in said received signal; and

a memory coupled to said processor;

wherein the processor solves the plurality of equations to determine a phase shift and gain applied to a transmitted signal, said transmitted signal encoded according to a predetermined negation scheme;

wherein the processor stores said phase shift and gain in memory;

wherein the transmitted signal is encoded according to the predetermined negation scheme by negating alternating tones of negative frequency.

15. (Original) The receiver of claim 14, wherein the processor uses the phase shift and gain to eliminate distortion in received signals.

16. (Original) The receiver of claim 14, wherein the predetermined negation scheme is known to the processor prior to generating a plurality of equations.

17. (Currently amended) A system, comprising:

means for transmitting a plurality of preambles, each preamble comprising at least one set of frequency tones encoded according to a predetermined negation scheme; and

means for receiving coupled by way of a wireless channel to the means for transmitting, said means for receiving generates a plurality of equations based on received frequency tones and interpolations between said received frequency tones;

wherein the means for receiving solves the plurality of equations to determine a phase shift and gain applied to each of the at least one set of frequency tones by the wireless channel;

wherein the at least one set of frequency tones is encoded according to the predetermined negation scheme by negating alternating tones of positive frequency.

18. (Original) The system of claim 17, wherein the means for receiving uses the phase shift and gain to eliminate distortion in received signals.

19. (Original) The system of claim 17, wherein each of the plurality of preambles comprises different frequency tones.

20. (Original) The system of claim 17, wherein the predetermined negation scheme is known to the means for receiving prior to separating each received preamble.